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May 9, 2003

Ms. Marlene H. Dortch  
Secretary, Federal Communications Commission  
445 12th St. S.W.  
Washington DC 20554

Re: MM Docket 86-440

Dear Ms. Dortch:

I, Sid Shumate, owner of a residence in Charlottesville, Virginia, and owner of the Givens & Bell division of Blue Ridge Video Services, hereby submit the enclosed Informal Objection to the grant of BMPCT-20030407AAM.

I certify that I am mailing or hand-carrying true copies to the following interested parties:

Mr. Gene A. Bechtel, Esq.  
Bechtel & Cole Chartered  
Suite 260, 1901 L. Street SW  
Washington DC 20036

Ray White, Assistant Secretary  
Viacom, Inc., Suite 1200  
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Washington DC 20036

Christopher J. Reynolds, Esq.  
P.O. Box 2809  
Prince Fredrick, MD 20678  
Counsel for NRAO

The enclosed Compact Disk contains this filing in Adobe Acrobat .pdf format, as file:  
Informal Objection.pdf



Sidney E. Shumate  
Principal Owner, Givens & Bell Division of Blue Ridge Video Services

Before the  
Federal Communications Commission  
Washington, D.C. 20554

In re Application and Amendment of	)	MM DOCKET NO. 86-440
	)	
Charlottesville Broadcasting Corporation	)	File No. BMPCT-20030407AAM
	)	
For Modification of Construction Permit	)	File No. BPCT-19860410KP
For A New TV Station on Channel 19	)	
At Charlottesville, Virginia	)	

May 9, 2003

Ms. Ms. Marlene H. Dortch  
Secretary, Federal Communications Commission  
445 12th St. S.W.  
Washington DC 20554

Re: MM Docket 86-440 and application and amendment BMPCT-20030407AAM

Dear Ms. Dortch:

The following comments are being filed with the Federal Communications Commission (the Commission) as an "informal objection" as per Commission Rules and Regulations Section 73.3587. I submit this informal objection in regards to the "Application for Modification of Construction Permit" (Application), filed on April 8, 2003 by the CBC (CBC) and assigned file number BMPCT-20030407AAM, and the associated "Amendment to Application for Modification of Construction Permit" (Amendment), submitted on April 24, 2003.

These applications seek to modify existing construction permit BPCT-19860410KP, a construction permit granted on August 15, 2001, pursuant to a Memorandum Opinion and Order, FCC 00-149, Adopted on April 19, 2000 and Released on April 28, 2000, granting, with special conditions and by motion of the commission, a modified construction permit to build a commercial television station on Ch. 19, assigned to Charlottesville, Virginia, to a newly created entity named Charlottesville Broadcasting Corporation (CBC), formed from the joining of two applicants, Achemar Broadcasting Company and Lindsay Television. This Order was intended to terminate a two-decade long adjudicatory proceeding, MM Docket No. 86-440.

The submission of, and the following issues raised by, this Application and Amendment, serve to reopen MM Docket NO. 86-440.

This informal comment opposes this Application and Amendment on the following grounds:

1. The Application and Amendment violate the terms of the "Agreement" and "Supplement to Agreement" signed in September, 1997, by the National Radio Astronomy Observatory (NRAO), Achenar Broadcasting Company and Lindsay Television, and submitted to the Commission as a part of the "Supplement to Joint Petition for Approval of Settlement Agreement, for Leave to Amend Application, and for Immediate Grant of Construction Permit" received by the Commission on June 24, 1998, as a part of the proceeding under Docket MM 86-440. I show in the accompanying Engineering Exhibit I, that this Application and Amendment proposes to violate the terms of this "Agreement and Supplement to Agreement" in that it (a) moves the transmitter site away from Carter's Mountain and (b) does not provide "equivalent protection". The Commission's grant by motion of the existing construction permit was based in part upon the existence of, and continued compliance with, this agreement.
2. The Application and Amendment, despite a showing that the City Grade contour extends over Charlottesville, Virginia, will not, in fact, adequately serve Charlottesville with a City Grade signal, nor will it serve the majority of the Charlottesville television market (as defined by the Nielsen Charlottesville Designated Market Area, or DMA) with an adequate receivable signal. Despite a significant increase in maximum Effective Radiated Power, it will provide significantly less received off-air signal strength to Charlottesville and the Charlottesville Television Market than that proposed to be provided by the existing construction permit. This is due to significant shadowing of the proposed signal pattern transmitted from the proposed new transmitter site by the easternmost range of the Blue Ridge Mountains. I submit in Engineering Exhibit II, a showing, using Longley-Rice Tech Note 101 shadowing, to show that in fact the proposed construction permit modification will provide significantly less than City Grade off-air reception to the City of Charlottesville. Exhibit II also compares the predicted Longley-Rice coverage of the existing construction permit to the proposed modification. Therefore, this Application and Amendment, clearly a move-in application that physically relocates the transmitter site of this construction permit into the Richmond, Virginia DMA, would not provide sufficient over-the-air coverage of the City of Charlottesville, and the Charlottesville Television Market. The proposed modification fails to meet the criteria stated in paragraph 7 of the Memorandum Opinion and Order, FCC 00-149, in that it will not "bring long-awaited, much needed commercial television service to Charlottesville."

I own a residence within the city limits of Charlottesville, Virginia. From Figure 11 of Engineering Exhibit 2, I can demonstrate that the received signal level at my residence

from the proposed modified construction permit transmitter site, would be between 60 and 64 dBu, less than Grade B reception. The existing, permitted location would provide better than 100 dBu of received signal level, a level far above the minimum required for City Grade reception.

Therefore, I ask the Commission to reject the modification application.

In addition, the proposed Application does not include a showing that the application provides “equivalent protection” under the existing agreement with the NRAO. There is no evidence in the application that CBC made any attempt to notify the NRAO regarding the proposed modification, or to obtain the permission of the NRAO to modify the agreement to allow the relocation of the transmitter site. The modification application, other than increasing the distance between the transmitter site and the NRAO, shows no attempt to provide an engineering solution to provide “equivalent protection” to the NRAO, such as to utilize an antenna pattern that would position a null in the pattern to reduce the signal strength toward the NRAO.

The application, as established above, also effectively abandons the Charlottesville Television Market.

These facts indicate a continued aggressive and negative pattern of behavior by the CBC, a pattern previously exhibited by both Achenar Broadcasting and Lindsay Television. It is particularly hypocritical of the former principals of Achenar Broadcasting, now a part of CBC, to present this modification application in its present form, as Achenar Broadcasting, over a decade ago, successfully argued before the Commission that the existing construction permit of Lindsay Television should be recalled and rescinded. Achenar’s argument was that, despite the fact that it was located outside the Quiet Zone, Lindsay’s transmitter site would provide a significant level of interference to the NRAO observatory at Green Bank; an interference level that was much less than the currently proposed construction permit modification would create.

The Application proposes to violate provisions of the agreement with the NRAO, under which the Commission granted, by its own motion, the existing construction permit. In addition, Achenar Broadcasting Corporation, Lindsay Television, and the combined entity, CBC, were provided an exceptional amount of time and opportunity to properly prepare the engineering for the existing construction permit.

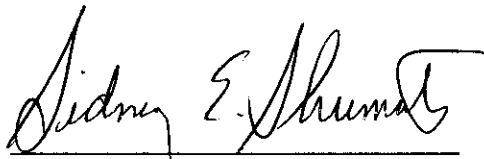
Therefore, due to the exceptional circumstances under which the existing construction permit was granted, I also recommend to the Commission that they amend their existing Memorandum Opinion and Order, FCC 00-149, to clearly and specifically state that no new applications for modification of the existing CBC construction permit will be accepted for filing that do not provide a showing of compliance with the provisions of the existing protection agreement with the NRAO.

Furthermore, I also recommend to the Commission that they amend their existing Memorandum Opinion and Order, FCC 00-149, to clearly and specifically state that no

new major applications for modification of the existing construction permit should be granted that do not provide equal or better off-air signal coverage to Charlottesville than that proposed to be provided by the existing construction permit.

In order to provide full disclosure, I state that I am also the principal owner of Blue Ridge Video Services, and the Givens & Bell division of Blue Ridge Video Services. Givens & Bell has previously applied to construct a Ch. 64 television station in Charlottesville, and has previously submitted comments and petitions in proceeding 86-440.

Sincerely yours,

A handwritten signature in cursive script, reading "Sidney E. Shumate". The signature is written in dark ink and is positioned above a horizontal line.

Sidney E. Shumate

## Engineering Exhibit I:

### Analysis of NRAO Interference from Proposed Modification BMPCT-20030407AAM

The following Engineering Exhibit presents an analysis of the interference provided by the proposed application for modification of construction permit, BMPCT-20030407AAM, and an analysis of whether this modification meets the terms of the “equivalent protection” agreement (Agreement) between the National Radio Astronomy Observatory (NRAO) and Achenar Broadcasting Company and Lindsay Television Inc., now Charlottesville Broadcasting Corporation (CBC).

A copy of this Agreement, and it’s associated Supplement, and two Engineering Statements containing relevant information regarding the “equivalent protection” proposed to the NRAO, all of which were previously submitted to the Federal Communications Commission (Commission) on June 24, 1998, as a part of the “Supplement to Joint Petition for Approval of Settlement Agreement, for Leave to Amend Application, and for Immediate Grant of Construction Permit” (Supplement) by the principals of Charlottesville Broadcasting Corporation. This Supplement can be obtained in Adobe Acrobat .pdf format, from the Commission’s website, via the Electronic Comment Filing System (ECFS) by performing a Search for Filed Comments for Proceeding 86-440.

From these documents, we find that Charlottesville Broadcasting, as part of the engineering supporting the grant of the existing construction permit, BPCT-19860410KP, proposed that “equivalent protection” to the signal transmitted by W19BB be provided to the NRAO, under the agreement with the NRAO. The existing construction permit therefore proposes to transmit no more than 21 kilowatts of effective radiated power

(ERP), toward the co-ordinates of the Green Bank Telescope (GBT), the Observatory's reference antenna, located at Green Bank, West Virginia. The path loss specified for this path, at 500 MHz, i.e. television channel 19, was previously established to be 217.8 dB, as documented in the Supplement.

The National Radio Quiet Zone Fact Sheet, found in Appendix A, states that "The computed power density the transmitter produces at the Observatory reference antenna should not exceed:  $1 \times 10^{-17}$  W/square meter for frequencies from 470 to 1000 MHz. A calculation of the power density produced by the existing construction permit shows that a power density of  $1.0034 \times 10^{-15}$  W/square meter, or 100.3 times the NRAO allowable limit for transmitters within the quiet zone, is allowed under the Agreement. Therefore, an interference level of approximately 100 times the NRAO allowable limit, or less, would provide "equivalent protection" to the signal transmitted by W19BB under the Agreement.

The engineering statements provided by Charlottesville Broadcasting Corporation as part of the Application for Construction Permit, BMPCT-20030407AAM, and its subsequent Amendment to include a vertical pattern for the antenna, state that the proposed construction permit would have a maximum effective radiated power of 5,000 kilowatts.

A profile of the path between the proposed new transmitting location co-ordinates and the GBT is found in Figure I. This profile establishes that the azimuth to the GBT from the proposed new transmitting location is 304.1 degrees true. From the profile information, I have determined that the first peak crossed by the signal path is 74.17 kilometers from the transmitter and has a height above sea level (ASL) of 1031.84 meters. The vertical angle from the proposed antenna radiation center to the first peak is therefore 0.0034 degrees.

The horizontal pattern in the application shows a relative field of 0.80 at 304.1 degrees; the vertical pattern Relative Field Plot, submitted in the Amendment, shows a relative field of 0.83 at 0 degrees vertical. Converting from field strength, which is measured in terms of voltage, to power gain factors, these relative field values correspond to relative

power gains of 0.636 for the horizontal pattern and 0.706 for the vertical pattern toward the GBT.

Therefore, the power proposed to be transmitted toward the GBT from the modified c.p. transmitter site is:

$$5,000 \text{ kilowatts (kW) maximum ERP times } 0.636 \text{ times } 0.706 = 2,245 \text{ kW ERP}$$

The free space path loss for the 107.27 km path is 131.19 dB. I requested, for maximum accuracy, that the NRAO analyze the profile path between the proposed new site and the GBT to determine the Diffraction Loss. Their reply, found in Appendix A, states that the Diffraction Loss is 86.6 dB.

The total signal path loss is determined by adding the free space path loss, (calculated from the path distance and frequency), to the diffraction loss. Therefore, the path loss is:

$$\text{Free Space Path Loss} + \text{Diffraction Loss} = \text{Signal Path Loss to GBT}$$

$$131.19 + 86.6 = 217.79 \text{ dB}$$

By calculation, using a ERP of 2,238 kW and a diffraction loss of 86.6 dB, the received power density at the GBT would be  $1.312 \times 10^{-14}$  watts/square meter, or 1,312 times the NRAO allowable limit.

The proposed modification would therefore result in a received signal level that is  $1312/100.3 = 13.08$ , or more than 13 times stronger than the signal level that is considered to be “equivalent protection” under the agreement, its supplement, and the engineering statements in the Supplement. Therefore, the proposed modification of the construction permit does not provide “equivalent protection” as per the terms of the agreement, and therefore, by its submission, violates the Agreement.



In addition, the Agreement states in paragraph 6 that: "Achenar and Lindsay agree that the proposed transmitting facility...will be located on Carter's Mountain." No supplement to the Agreement has been filed to show that the NRAO has agreed to allow relocation of the transmitter site 51.9 kilometers south-southeast of the current permitted site on Carter's Mountain. Therefore, the proposed modification would also violate this provision of the Agreement.

Certification:

I hereby certify that the engineering statements above are true and correct to the best of my knowledge. I am a graduate electrical engineer and a licensed General Class Radiotelephone Operator, with more than 20 years experience in the design, engineering, construction and operation of television transmission facilities in and near the NRAO quiet zone. My work has often appeared before the Commission, and my qualifications are a matter of record with the Commission.

A handwritten signature in black ink, reading "Sidney E. Shumate". The signature is written in a cursive, flowing style with a large initial 'S'.

Sidney E. Shumate

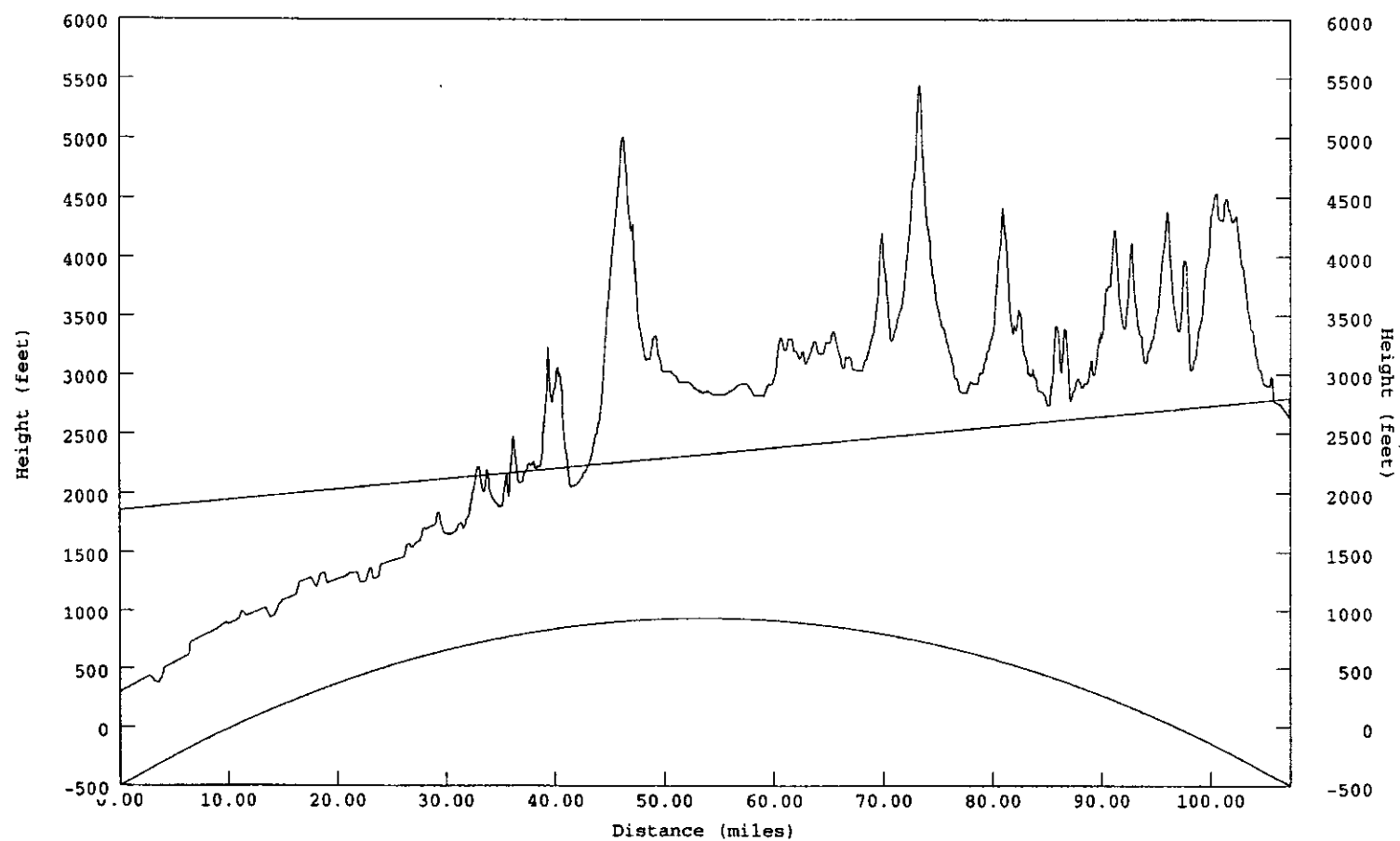
May 9, 2003

Study: BMPCT-20030407AAM  
TX Site: New Ch. 19 Cville  
RX Site: Greenbank New Big Dish  
TX --> RX: 107.13 mi, 304.2 degrees

ENGINEERING EXHIBIT I.

FIGURE 1.

TX Latitude: N37-34-20.53  
TX Longitude: W78-12-08.99  
RX Latitude: N38-25-59.13  
RX Longitude: W79-50-23.41



## RF CALCULATION1.XLS

## TELEVISION VERSION FOR QUIET ZONE CALCULATIONS:

FROM SITE: BPCT19860410KP current construction permit  
 TO SITE: Green Bank Telescope, NRAO Observatory, Green Bank WV

DISTANCE: 129.70 km or 80.60907 miles  
 FREQUENCY: 500 MHz  
 IMPEDANCE: 50 ohms  
 RECEIVE ANTENNA GAIN: 0 dBi [isotropic, not 1/2 wave dipole]  
 XMTR ANTENNA GAIN: 15.623 dBi or 36.5006 peak pwr. Gain  
 XMTR OUTPUT POWER: 73700 watts  
 TRANSMISSION LINE LOSS: 0.532 dB  
 ANTENNA NULL GAIN LOSS: 20.6 dB  
 OBSTRUCTION LOSSES: 79.9 dB

## CALCULATIONS:

FREE SPACE PATH LOSS: 128.707 dB  
 FREE SPACE PATH & OBS. LOSSES: 208.607 dB  
 TRANSMIT ANTENNA INPUT POWER: 78.14267488 dBm or 65202.986 watts  
 RECEIVE LEVEL: -135.4414034 dBm  
 ERP AT THIS ANGLE: 73.16567488 dBm or 20.728481 kW or  
 RECEIVE SIGNAL LEVEL: 3.77933E-08 volts into 50 ohms or  
 0.000038 mV into 50 ohms  
 [NRAO limit = 1.00E-17 Watts/square meter]  
 POWER DENSITY: 1.00341E-15 Watts/square meter  
 EXCEEDS NRAO LIMIT BY: 20.0 dB or by 100.3 times

TRANSMITTED FIELD: dBu, a.k.a. dBuV/meter  
 RECEIVED RF FIELD: -135.441 dBm into 50 ohm or

TRANSMITTED SIGNAL LESS OBSTRUCTION LOSSES:  
 0.000212113 watts  
 INTERIOR SURFACE AREA OF THEORETICAL SPHERE WITH RADIUS EQUAL TO: 129.70 km  
 211392596683.71 square meters  
 POWER DENSITY AT RECEIVE SITE:  
 1.00341E-15 watts/square meter

## RF CALCULATION2.XLS

## TELEVISION VERSION FOR QUIET ZONE CALCULATIONS:

FROM SITE: BMPCT-20030407AAM proposed construction permit modification new site  
 TO SITE: Green Bank Telescope, NRAO Observatory, Green Bank WV

DISTANCE: 172.63 km or 107.27 miles  
 FREQUENCY: 500 MHz  
 IMPEDANCE: 50 ohms  
 RECEIVE ANTENNA GAIN: 0 dBi [isotropic, not 1/2 wave dipole]  
 XMTR ANTENNA GAIN: 15.623 dBi  
 XMTR OUTPUT POWER: 180000 watts  
 TRANSMISSION LINE LOSS: 1.1825 dB  
 ANTENNA NULL GAIN LOSS: 3.48089 dB  
 OBSTRUCTION LOSSES: 86.6 dB

## CALCULATIONS:

FREE SPACE PATH LOSS: 131.1889657 dB  
 FREE SPACE PATH & OBS. LOSSES: 217.7889657 dB  
 TRANSMIT ANTENNA INPUT POWER: 81.37022505 dBm or 137095.28 watts  
 RECEIVE LEVEL: -124.2766306 dBm  
 ERP AT THIS ANGLE: 93.51233505 dBm or 2245088.7 watts  
 RECEIVE SIGNAL LEVEL: 1.36664E-07 volts into 50 ohms or  
 0.000137 mV into 50 ohms  
 [NRAO limit = 1.00E-17 Watts/square meter]  
 POWER DENSITY: 1.3115E-14 Watts/square meter  
 EXCEEDS NRAO LIMIT BY: 31.2 dB or by 1311.5 times

TRANSMITTED FIELD: dBu, a.k.a. dBuV/meter  
 RECEIVED RF FIELD: -124.277 dBm into 50 ohm or

TRANSMITTED SIGNAL LESS OBSTRUCTION LOSSES:  
 0.004911719 watts  
 INTERIOR SURFACE AREA OF THEORETICAL SPHERE WITH RADIUS OF: 172.63 km  
 374510670160.93 square meter  
 POWER DENSITY AT RECEIVE SITE:  
 1.3115E-14 watts/square meter  
 POWER DENSITY FORMULA:  
 POWER DENSITY= XMITTED SIGNAL LESS OBS. LOSSES/SURFACE AREA OF SPHERE with  
 RADIUS=PATH LENGTH

## APPENDIX A:

### Contents:

E-mail Reply from the NRAO  
NRAO Quiet Zone Fact Sheet

From: Denise Wirt [drwirt@nrao.edu]  
Sent: Friday, April 25, 2003 4:42 PM  
To: sshumate@bia.com  
Cc: Wesley A. Sizemore  
Subject: NRQZ#P1318/24APR03 Charlottesville Broadcasting  
Hello Mr. Shumate:

I have completed the preliminary evaluation for the new location for the Charlottesville Broadcasting site in Charlottesville Virginia.

The antenna site parameters used for this evaluation and the resulting diffraction loss, troposcatter loss, and ERPd limit necessary to protect this facility from harmful interference are:

Location: Charlottesville VA  
Latitude: 37d 34m 20.0s North (NAD27)  
Longitude: 78d 12m 10.0s West (NAD27)  
Ground Elevation: 393 Feet AMSL  
Antenna Height: 1562 Feet AGL  
Frequency: 500.0 MHz  
Diffraction Loss: 86.6 dB  
Troposcatter Loss: 81.0 dB  
Analog ERPd Limit: 289.5 Watts  
Azimuth to GBT: 304.1 Degrees True

If you have any questions, Wesley has reviewed this information and is quite familiar with the history. Please contact him at 304-456-2144 or wsizemor@nrao.edu.

Denise Wirt  
drwirt@nrao.edu

National Radio Astronomy Observatory  
P. O. Box 2  
Green Bank, WV 24944  
(304) 456-2107 (Voice)  
(304) 456-2276 (Fax)

Edited from:

National Radio Quiet Zone Fact Sheet

Revised February 1985

The National Radio Quiet Zone (NRQZ) was established with FCC rulemaking Docket No. 11745, dated November 19, 1958, and enclosed area of approximately 13,000 square miles of Virginia and West Virginia as shown on the map. The purpose of the NRQZ is to minimize possible harmful interference to the National Radio Astronomy Observatory (NRAO) at Green Bank, WV and the Navy's space receiving facility at Sugar Grove, WV. Applications for radio services within the NRQZ are reviewed for compliance with the criteria of the observatories, which are:

The computed power density the transmitter produces at the Observatory reference antenna should not exceed:

- 1 x 10<sup>-8</sup> W/m<sup>2</sup> for frequencies below 54MHz;
  - 1 x 10<sup>-12</sup> W/m<sup>2</sup> for frequencies from 54 to 108 MHz;
  - 1 x 10<sup>-14</sup> W/m<sup>2</sup> for frequencies from 108 to 470 MHz;
  - 1 x 10<sup>-17</sup> W/m<sup>2</sup> for frequencies from 470 to 1000 MHz;
  - f<sup>2</sup>(GHz) x 10<sup>-17</sup> W/m<sup>2</sup> for frequencies (f) above 1 GHz;
- except CCIR-224 densities for the radio astronomy frequency bands plus narrow guard-bands.

## Engineering Exhibit II:

### A Comparison of Coverage Area

For

BPCT-19860410KP and BMPCT-20030407AAM

The following report presents an analysis of the difference in coverage area as determined from coverage area maps prepared according to Longley-Rice Tech Note 101. This analysis takes into consideration the terrain shading existing in Charlottesville, Virginia, and the Charlottesville Television Market, as defined by the Nielsen Designated Market Area, or DMA, in order to present a more complete understanding of the predicted coverage area that would result from the construction of the existing and proposed modified construction permits for Channel 19 at Charlottesville, Virginia.

Achenar Broadcasting Corp. and Lindsay Television, Inc. , now combined into the current Charlottesville Broadcasting Corporation (CBC), previously submitted to the Federal Communications Commission (Commission) on June 24, 1998, engineering statements as a part of the "Supplement to Joint Petition for Approval of Settlement Agreement, for Leave to Amend Application, and for Immediate Grant of Construction Permit" (Suppliment). This Suppliment can be obtained in Adobe Acrobat .pdf format, from the Commission's website, via the Electronic Comment Filing System (ECFS) by performing a Search for Filed Comments for Proceeding 86-440.

The information for this analysis was taken from the Suppliment, the existing construction permit authorization, BPCT-19860410KP, and proposed modification, with amendment, BMPCT-20030407AAM. Figure 1 is a terrain profile showing the terrain existing between the transmitter site specified in the existing construction permit and the reference co-ordinates for Charlottesville, Virginia. Figure 2 is a terrain profile showing



the terrain existing between the transmitter site specified in the proposed modified construction permit and the reference co-ordinates for Charlottesville, Virginia.

The following nine figures, in three groups, visually show the results of the Longley-Rice analysis.

Figure 3 shows the Charlottesville DMA outlined on the underlying map used for figures 4 and 5. Figure 4 shows the received signal levels, using a Longley-Rice contour analysis, for 80 dBu City Grade, 74 dBu Grade A, and 64 dBu Grade B coverage, for the existing CBC construction permit. Figure 5 shows the same received signal levels for the proposed modified construction permit. Note how the mountains southeast of, and adjacent to, Charlottesville, shade the City of Charlottesville and two-thirds of the Charlottesville DMA from receiving the City Grade signal that would be received from the existing construction permit facility. Note also that the proposed modified transmitter site is in rural northern Cumberland County, in the Richmond, Virginia DMA, not the Charlottesville DMA.

In Figure 6, I show a smaller scale, underlying map of the vicinity of Charlottesville, Virginia, used for Figures 7 and 8. Figure 7 shows the coverage that would result from the existing c.p., and comparing Figure 8 to Figure 7 clearly shows the effect of the shading created by the easternmost range of the Blue Ridge Mountains, on the signal strength of the UHF television signal transmitted from the proposed modified c.p. site.

In Figure 9, I show a close-up underlying map of the City of Charlottesville, used in Figures 10 and 11. Figures 10 and 11 have been augmented by adding two additional contour levels, a green level representing a signal level of 100 dBu or above, ten dB stronger than the minimum level considered to be City Grade, and a blue 60 dBu contour level which is four decibels below the minimum level considered adequate for Grade B service. The remaining clear areas of the baseline map receive a signal level less than 60 dBu, a level that can be considered to be unwatchable.

As can be seen in Figure 8, the existing construction permit would provide a better than 100 dBu signal level, for all practical purposes, to all of the City of Charlottesville. The proposed modification, as seen in Figure 9, would provide a City Grade signal to only a few, spotty areas of Charlottesville. Most of the city would receive only Class B, sub-Class B, or no reception at all.

The purpose of the two additional levels was to demonstrate a significant, in most cases more than 35 dB, signal difference between the signal quality that would be provided by the existing and proposed modified construction permits to the City of Charlottesville, and a level difference adequate to meet the Commission's minimum threshold standard for a Longley-Rice showing. It also demonstrates the significant difference between the standard contour prediction, which shows a City Grade signal over all of Charlottesville, and the real world results that occur when residents of Charlottesville attempt to receive an off-the-air signal from the FOX channel 35 affiliate near Richmond, Virginia.

From a practical aspect, the Charlottesville DMA has long been effectively isolated from the UHF television signals broadcast in the Richmond, Virginia DMA, by the easternmost range of the Blue Ridge. The City of Charlottesville nestles against the western side of this range of mountains, and has always received poor or nonexistent off-air reception from the signals of WCVE-TV, Ch. 23, and WRLH, Channel 35. These full-power UHF television stations transmit from tall towers located on the western edge of the Richmond, Virginia metro area. As a result of the shading provided by the Blue Ridge mountains, WCVE-TV simulcasts its program schedule on its satellite station, WHTJ-TV, Ch. 41, a full power non-commercial television station transmitting from Carter's Mountain, in order to serve the Charlottesville DMA.

The impact of this shading upon the coverage area of the proposed modified construction permit, is not unlike the shading to the Shenandoah Valley, including the cities of Waynesboro, Staunton, and Harrisonburg, provided by the second range of the Blue Ridge Mountains, including Afton Mountain, that occurs to the signal of WVIR-TV, a 5,000 kilowatt omnidirectional commercial television station that broadcasts on UHF

channel 29 from Carter's Mountain, near the existing construction permit site. This shading prompted CBC to request, in proceeding 86-440, that the Commission grant by its own motion, construction permits for two translators to serve the Shenandoah Valley.

The coverage map creation methodology utilized in the Commission's rules does not take into account terrain that is more than sixteen kilometers distant from the transmitter site. As can be seen from Figure 2, the mountains that shadow Charlottesville are more than 16 kilometers distant from the proposed new transmitter site. In this case, this sixteen kilometer limitation is significant when preparing a coverage map dealing with the signal transmitted from a 5 megawatt UHF television station from an antenna located on a tall tower. The standard contour determination for this modification of construction permit did not take into consideration significant terrain that is located within the calculated City Grade contour, but beyond the sixteen kilometer limitation.

The population count specified for the existing construction permit is: 492,638 with a coverage area of 18,481 sq. km. While the modified c.p. can show an increase in population served, it is visually obvious in Figures 3 through 11 that this is due to (a) increased power transmitted, which increases the coverage area, and (b) proximity to the Richmond, Virginia metro area. The population within the Charlottesville DMA would be significantly negatively impacted, as is most obvious in a comparison of Figures 3, 4 and 5; the bulk of the population in the Charlottesville DMA resides in Charlottesville, western Albemarle County, and along the U.S. Route 29 corridor that passes north and south through Albemarle county, Greene County, and Madison County, west of the easternmost ridge of the Blue Ridge Mountains. Palmyra County is rural in nature, and by comparison, is lightly populated. Therefore, approximately 75% to 90% of the population in the Charlottesville DMA would have the quality of their reception significantly negatively impacted, or would lose the ability to receive, the new Ch. 19 television station if the modification of the construction permit is approved.

This Exhibit therefore demonstrates, for all practical purposes, that this proposed modification does not serve the City of Charlottesville with a City Grade signal, and, in

fact, will abandon most of the potential off-air audience in the City of Charlottesville, and the potential off-air audience in the Charlottesville DMA located to the west of the first range of the Blue Ridge mountains.

Certification:

I hereby certify that the engineering statements above are true and correct to the best of my knowledge. I am a graduate electrical engineer, and a licensed General Class Radiotelephone Operator, with more than 20 years experience in the design, engineering, construction and operation of television and television translator transmission facilities in and near the NRAO quiet zone. My work has often appeared before the Commission, and my qualifications are a matter of record with the Commission.

A handwritten signature in black ink, reading "Sidney E. Shumate". The signature is fluid and cursive, with the first name "Sidney" being the most prominent.

Sidney E. Shumate

May 9, 2003

Figure 1.

Page 1 of 1

Contour Path from Existing C.P. site to City of Charlottesville May 07, 2003

Study: BPCT19860410KP to Charlottesville

TX Latitude: N37-59-05.00

TX Site: BPCT19860410KP

TX Longitude: W78-28-49.00

RX Site: Charlottesville, City of

RX Latitude: N38-01-53.00

TX --&gt; RX: 7.81 km, 48.4 degrees

RX Longitude: W78-24-49.00

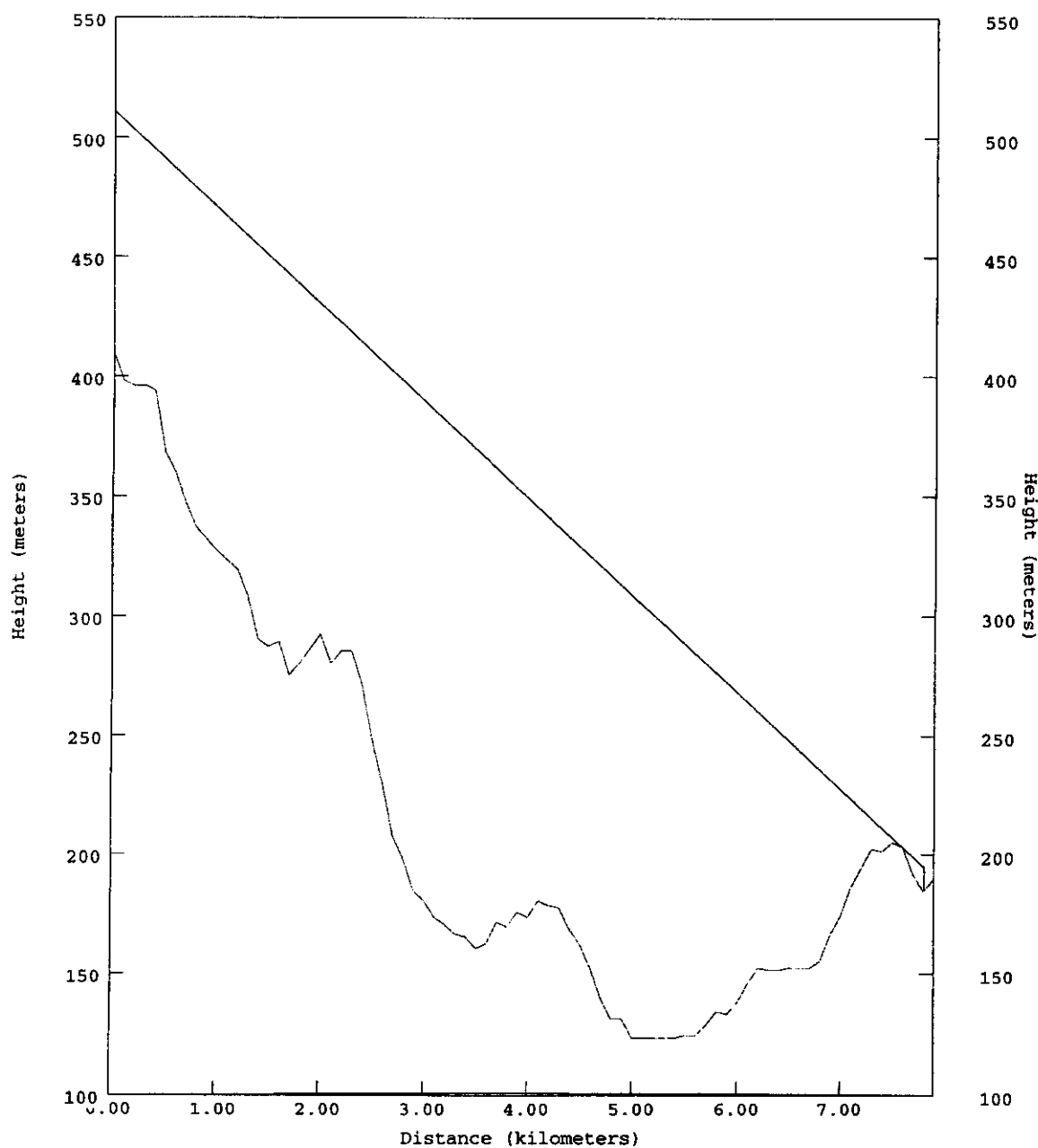


Figure 2.  
Contour Path from Modified site to City of Charlottesville May 07, 2003

Study: BMPCT-20030407AAM to Charlottesville

TX Latitude: N37-34-20.00

TX Site: BMPCT20030407AAM

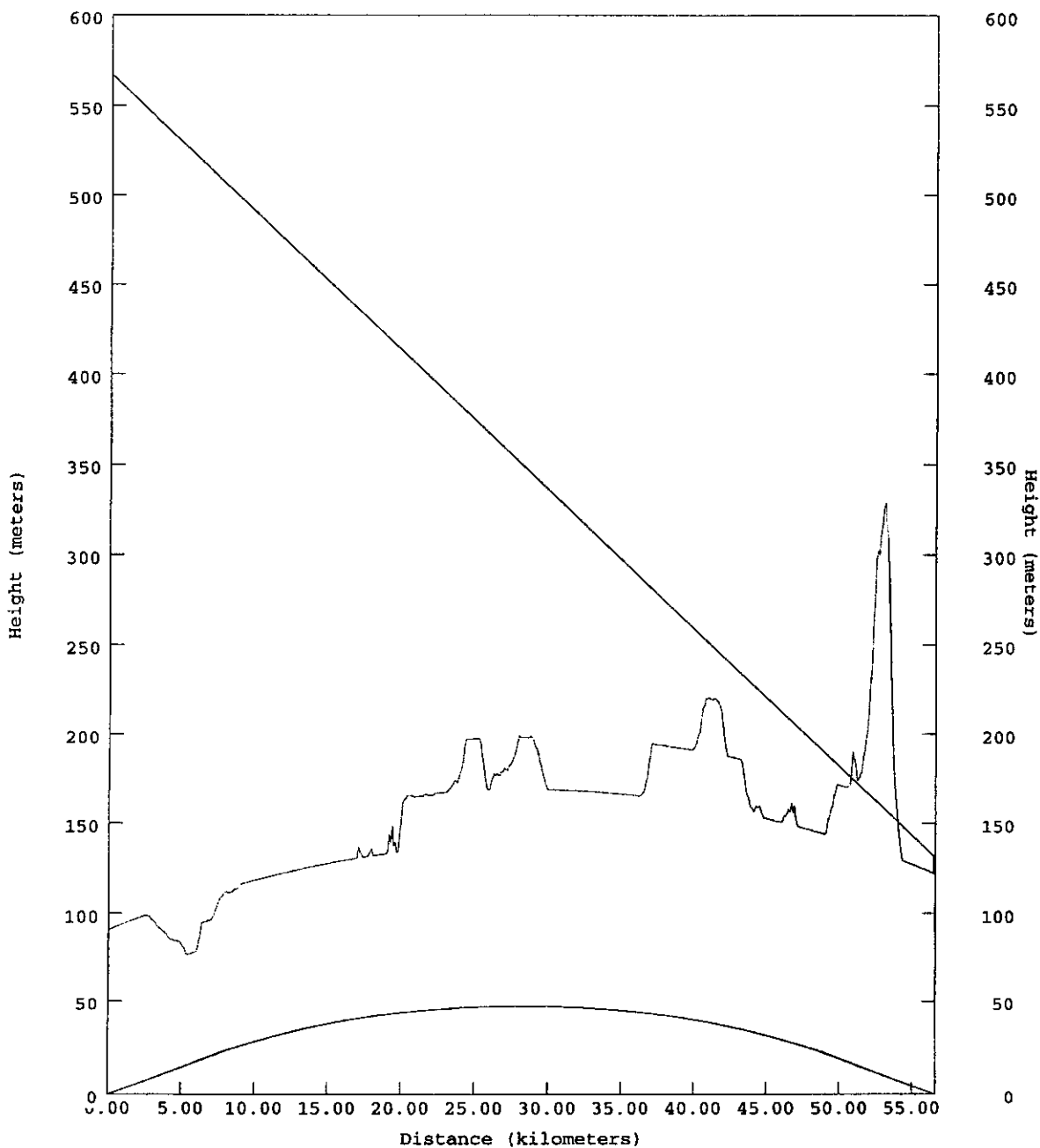
TX Longitude: W78-12-10.00

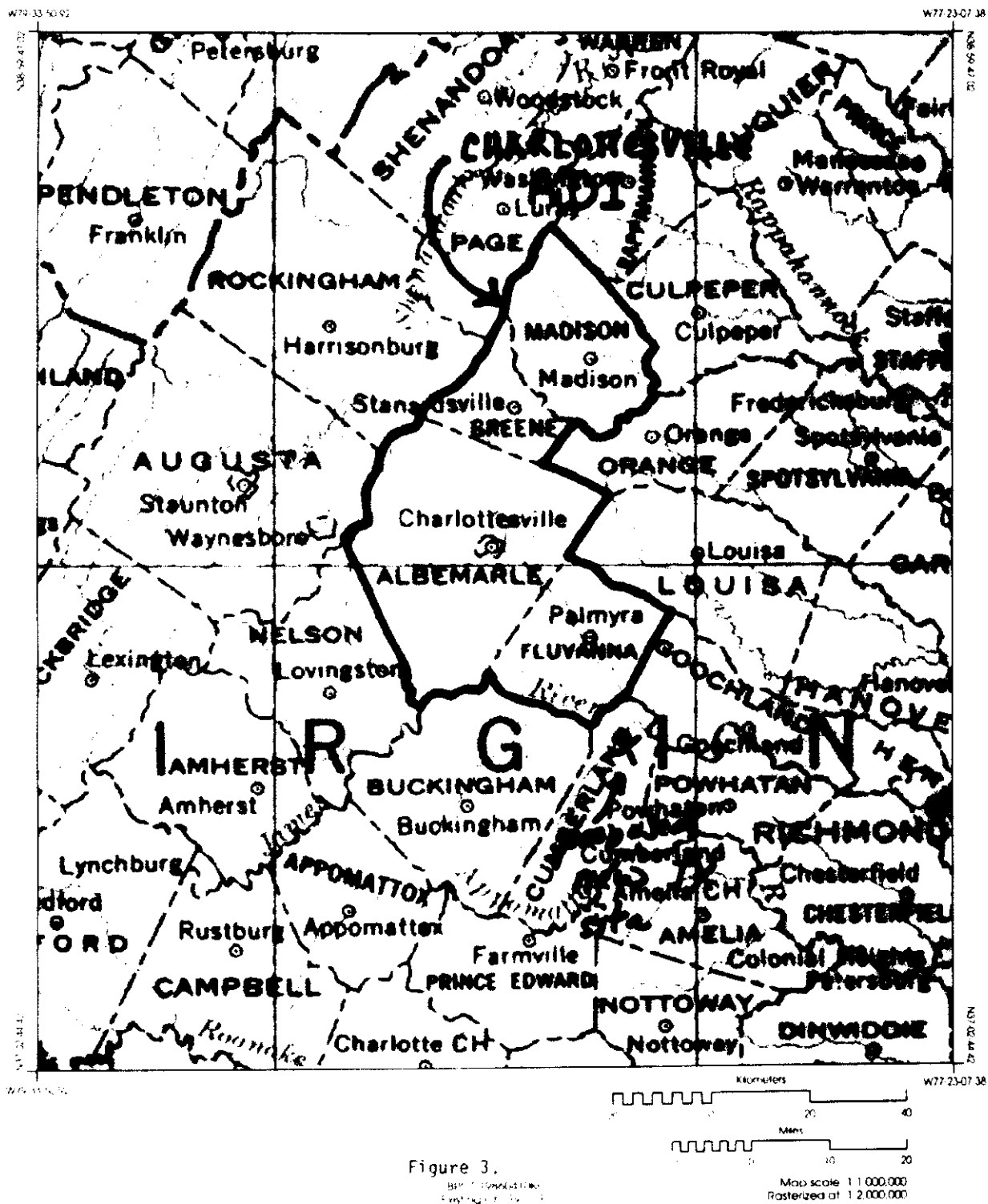
RX Site: Charlottesville, City of

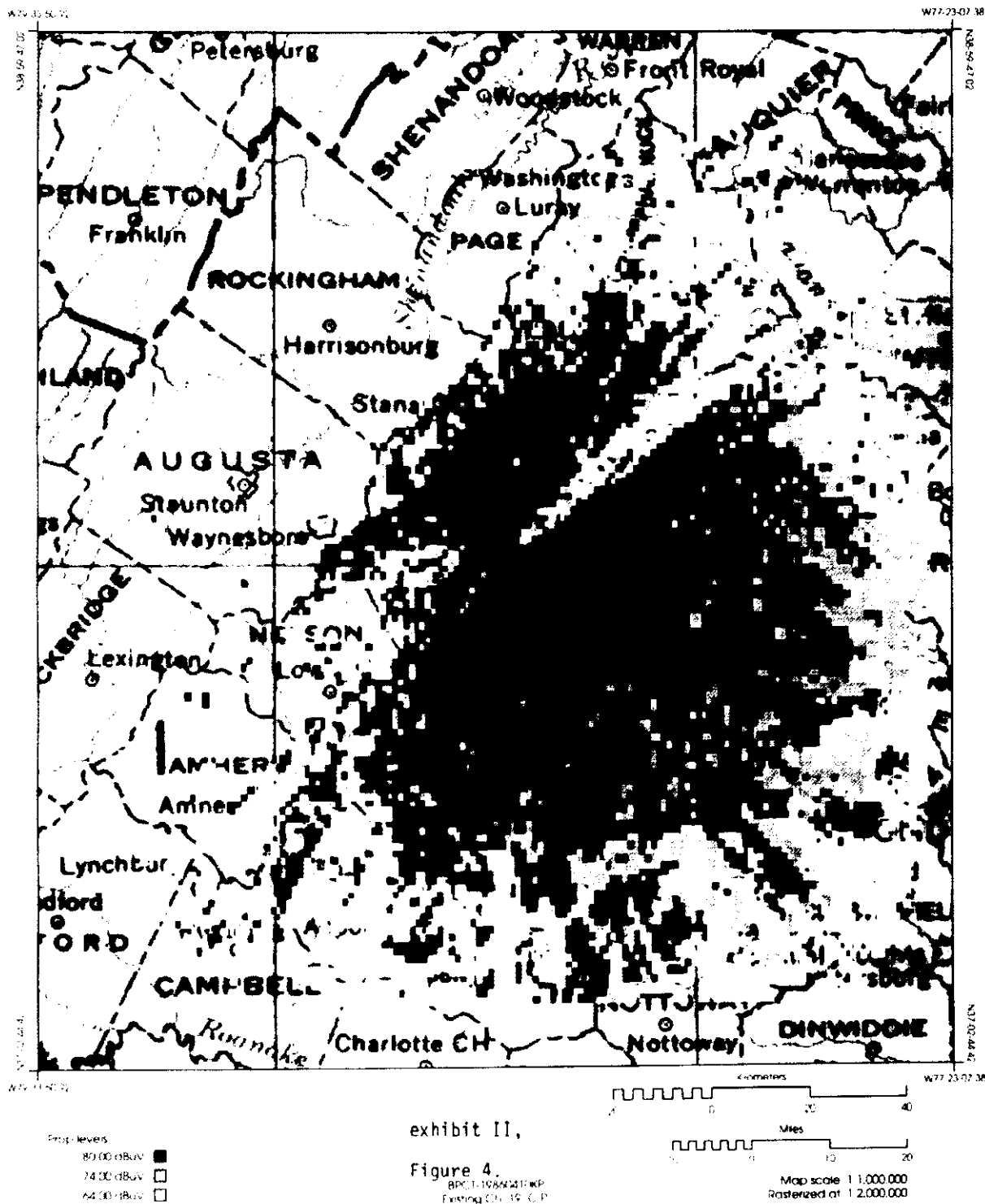
RX Latitude: N38-01-53.00

TX --> RX: 56.51 km, 334.6 degrees

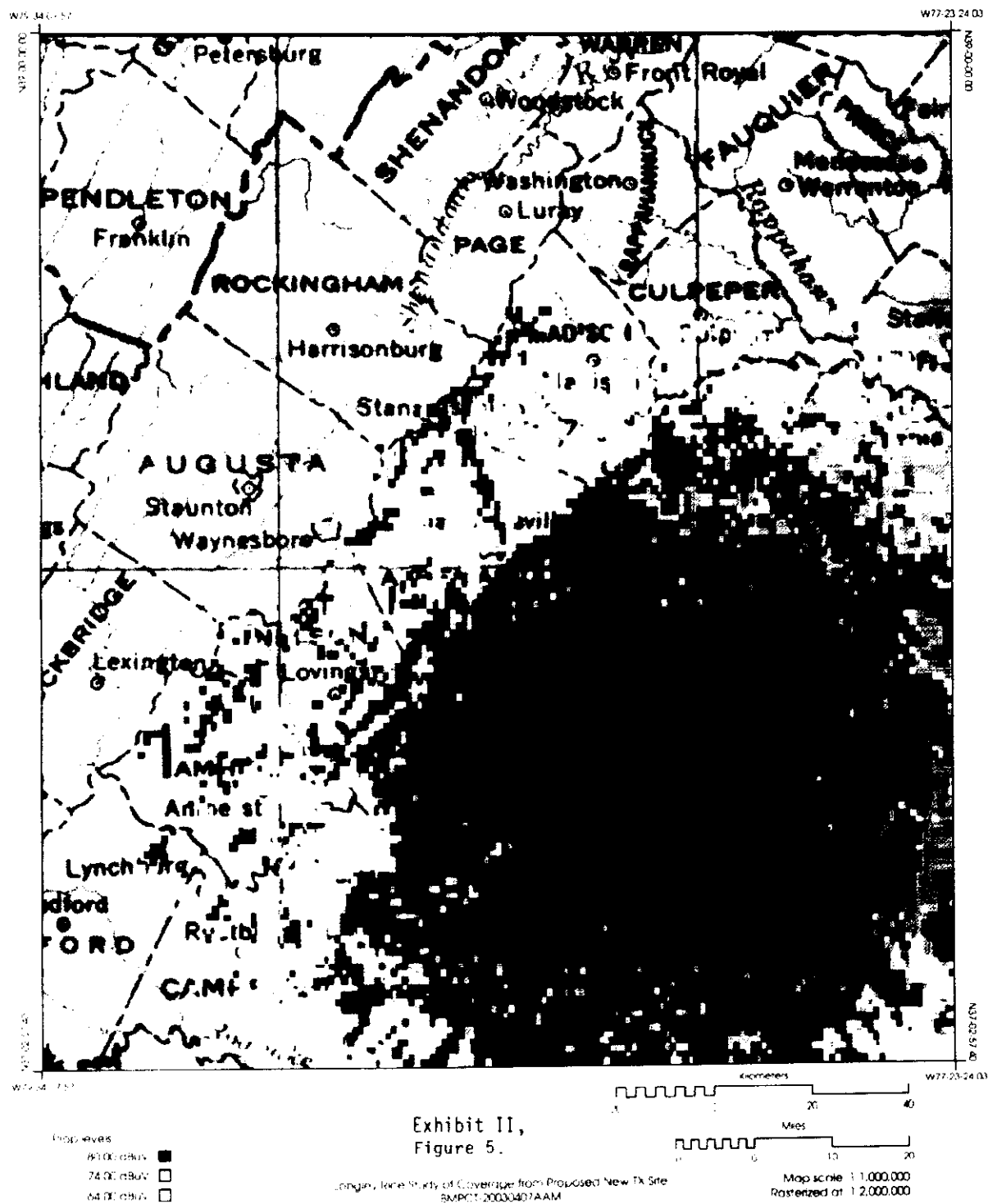
RX Longitude: W78-28-49.00











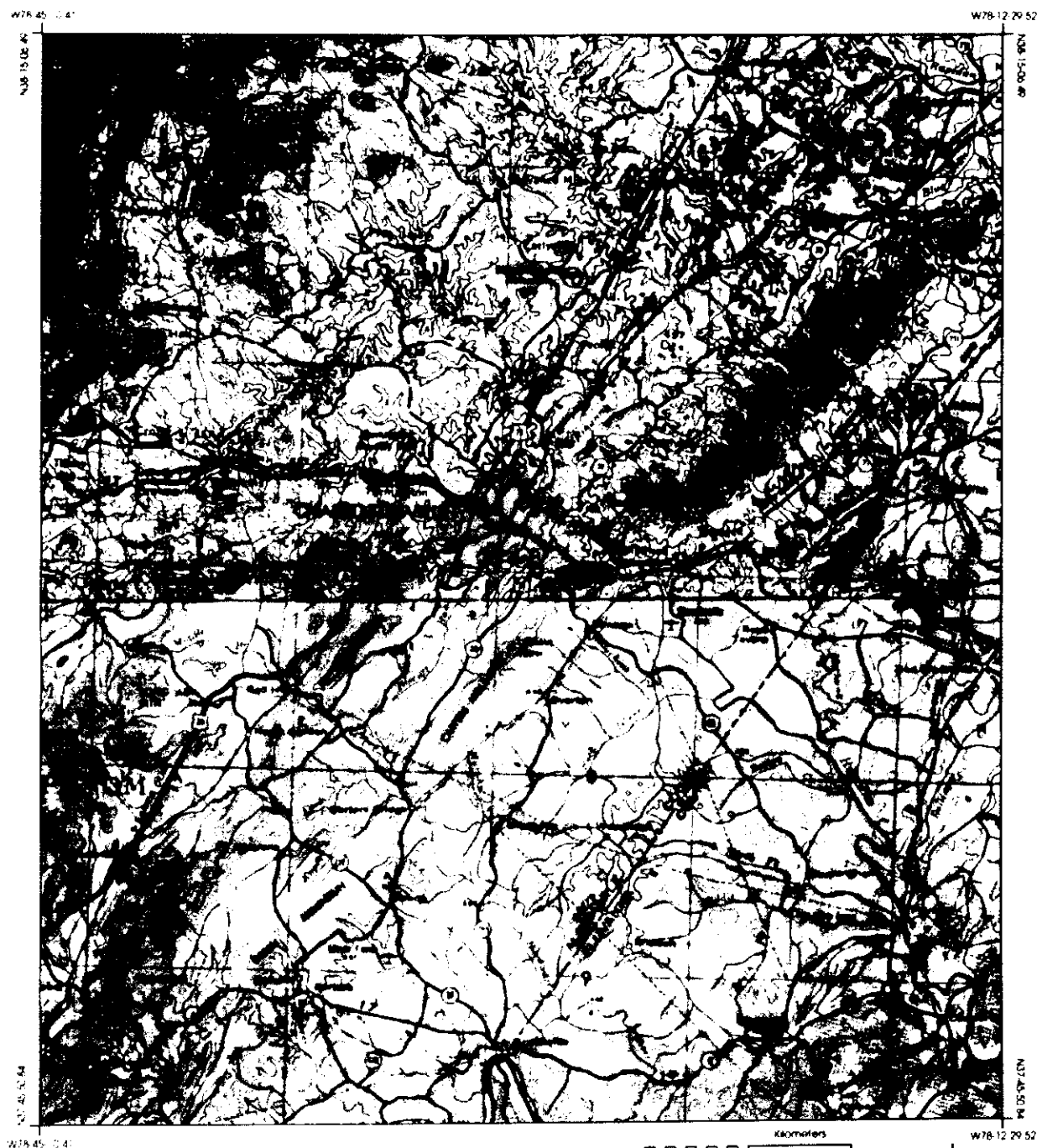
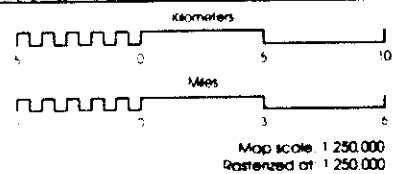


Exhibit II,  
Figure 6

BKLT 72806410KP  
existing, n. 19-17 P



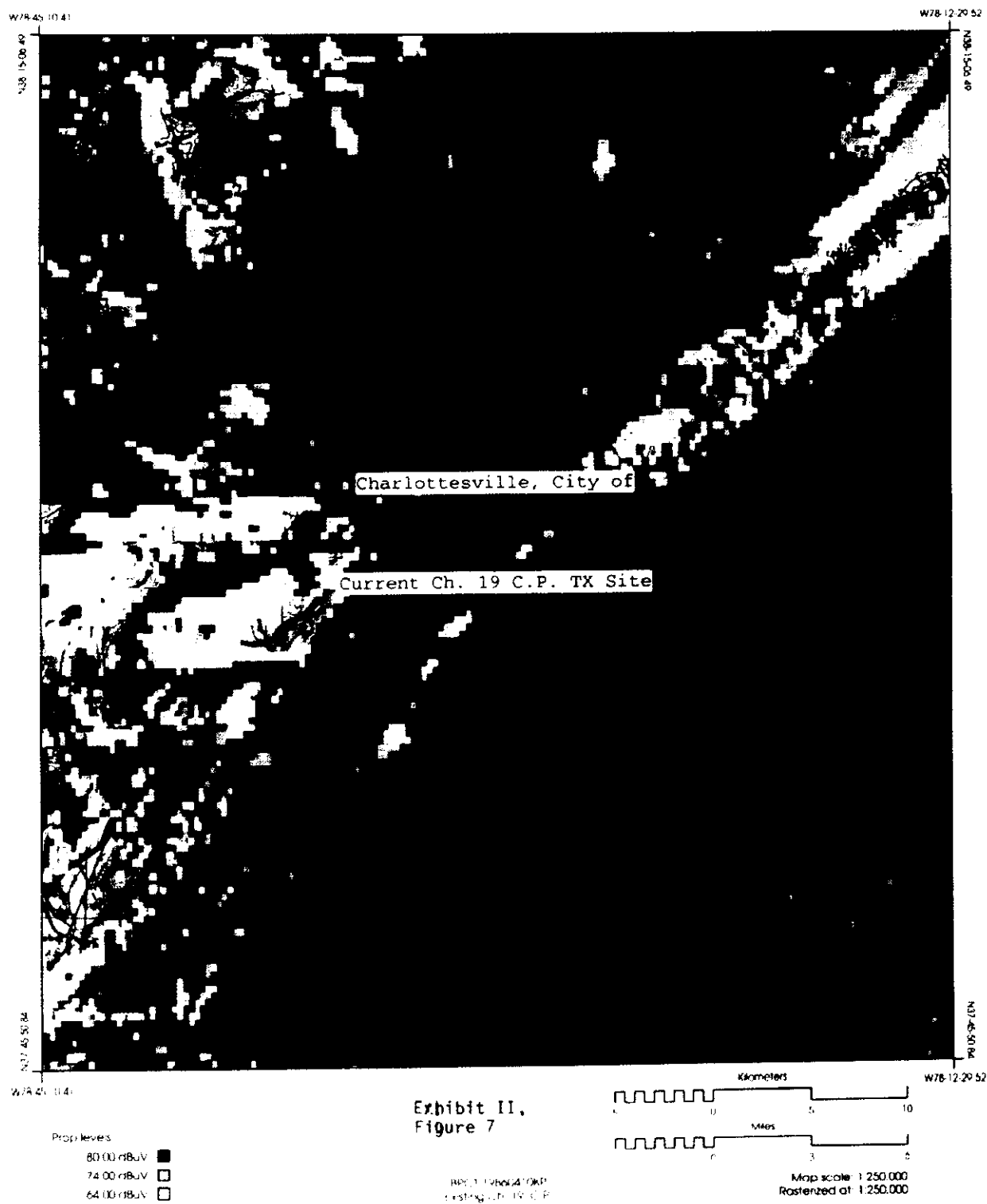
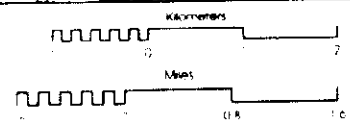




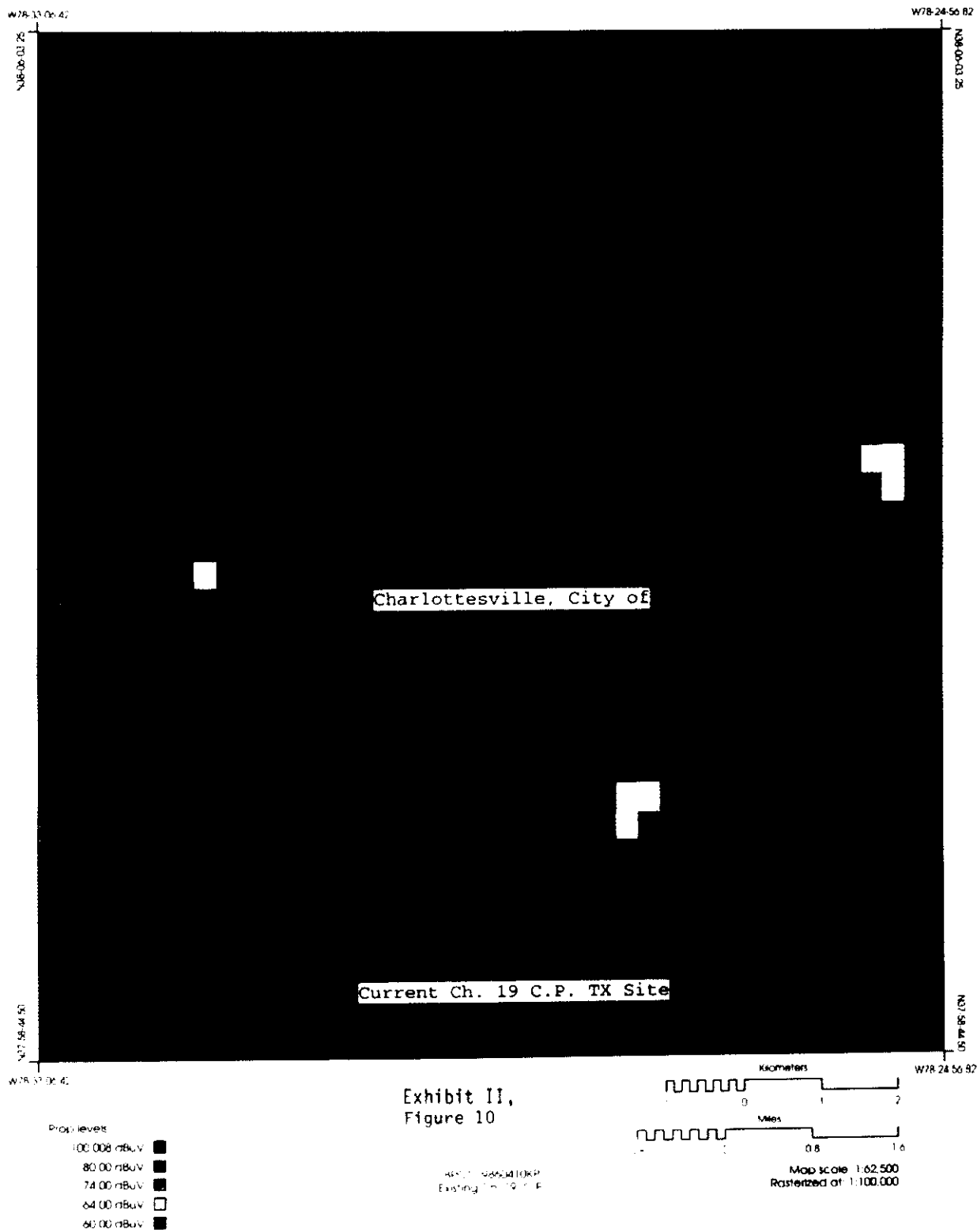


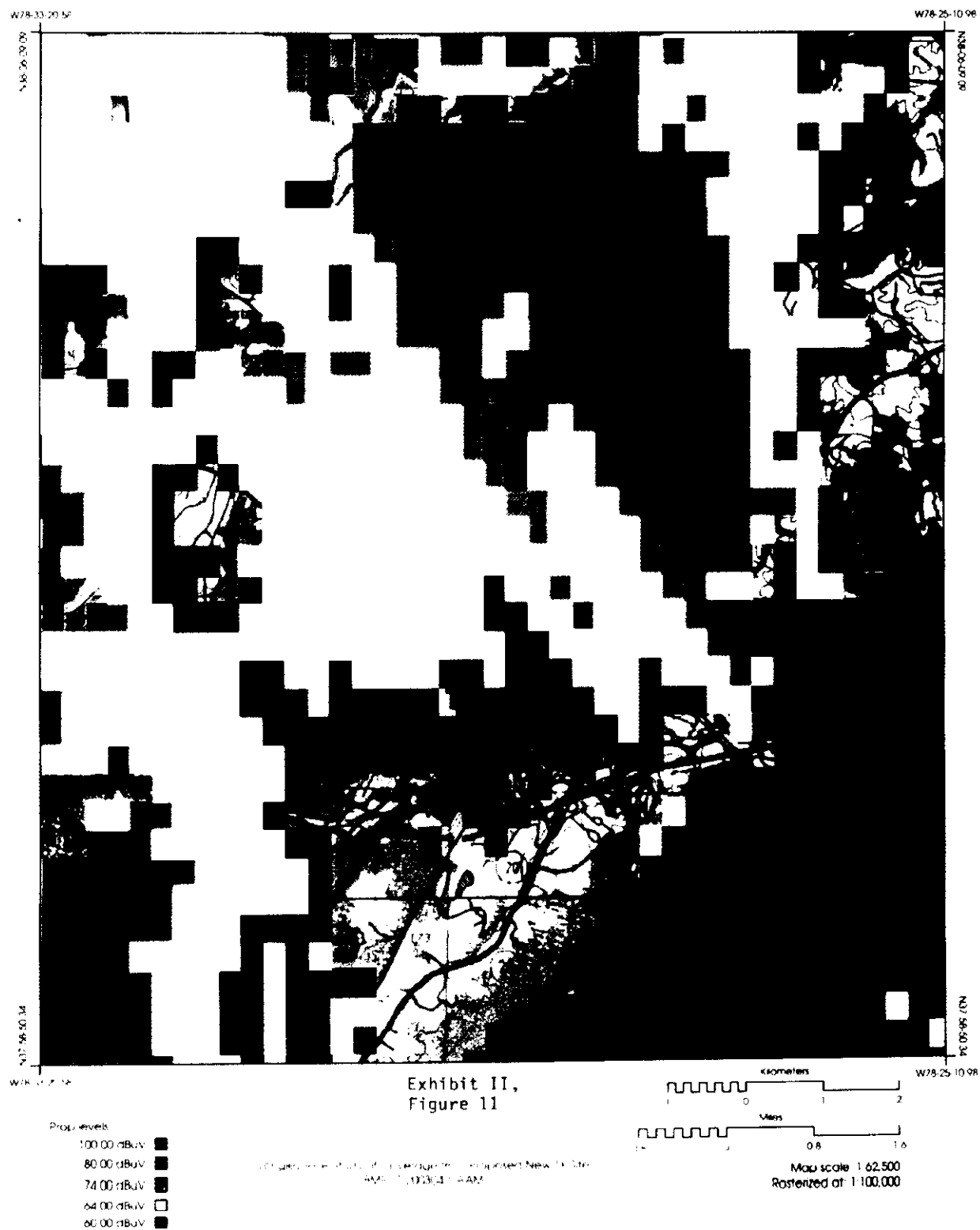
Exhibit II,  
Figure 9

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BMP# 1/2000/0407AAM



Map scale: 1:62,500  
Rasterized at: 1:100,000





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